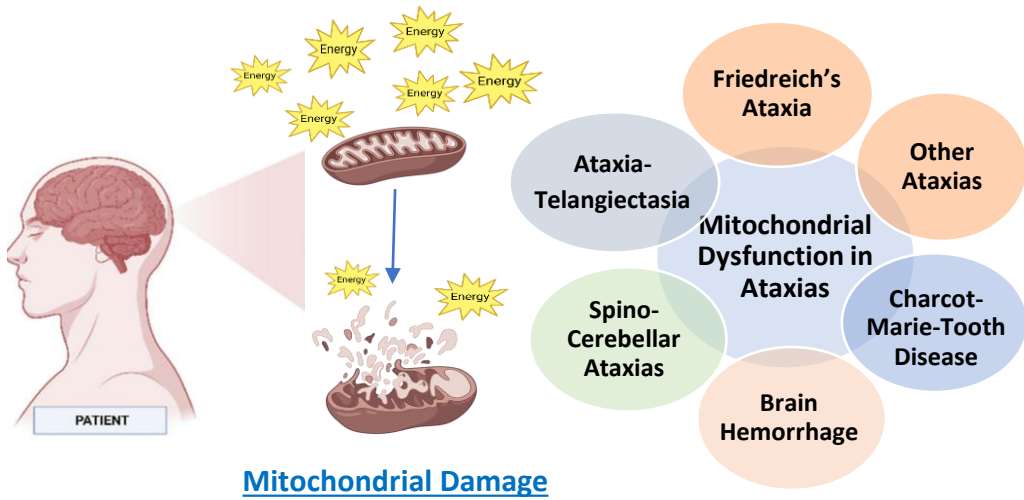




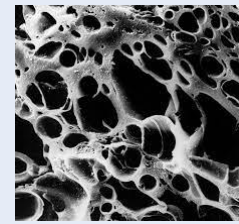
PLEOZYMES: A NOVEL, PLEIOTROPIC NANOZYME FOR TARGETING METABOLIC DEFICITS IN ATAXIAS



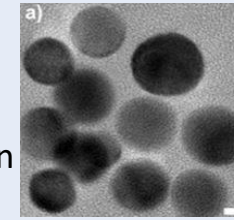
Presenters: Uffaf Khan MS., uk2015@tamu.edu, PI: Thomas Kent MD tkent@tamu.edu



BREAKTHROUGH NANOZYME TECHNOLOGY (PLEOZYMES)



Single step Transformation



Pleozymes, 3-7nm carbon discs. Size of a protein with transformed chemical properties

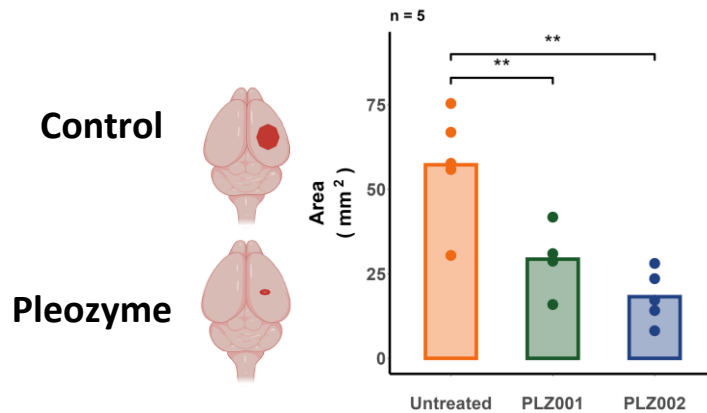
PLEIOTROPIC CATALYTIC MECHANISMS Restore Multiple Biological Deficits

- Localize to mitochondria
- Increase energy generation
- Removes toxins like hydrogen sulfide
- Decreases double strand DNA damage
- Mimics cellular antioxidant enzymes

Lead Candidates: PLZ001 and PLZ002

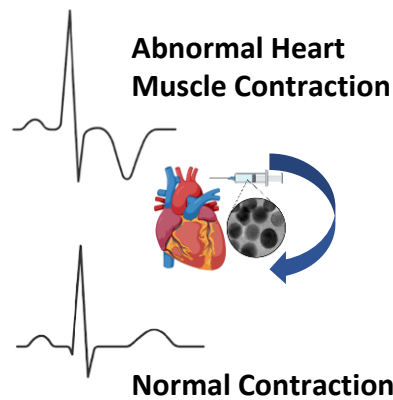
- PLZ001: Pleozymes
- PLZ002: Deferoxamine-conjugated Pleozymes

Effective in Animal Models of Brain Injury

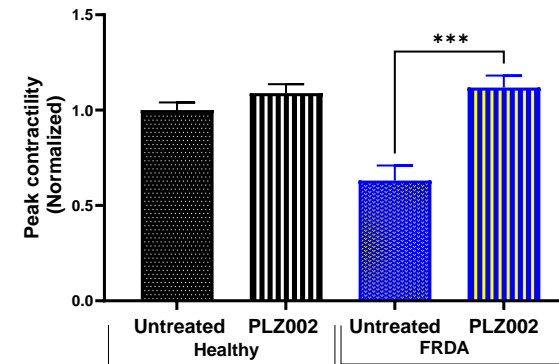


Pleozymes dramatically reduced brain injury bleeding *in vivo*

Friedreich's Ataxia Heart Cell Model



Pleozymes rescued cardiac contractility in FRDA



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Samuel..., Kent TA...Tour JM *PNAS* 2015;
 Mouli K,... Kent TA, *Adv. Health Mat* 2024
 McHugh E.....Kent TA, Tour JM. *Adv Mat* 2023
 Figure from Clemente-Suárez VJ et al, *Biomedicines*. 2023
 Images from Biorender